



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of

Docket No: Q62446

Seiji UMEMOTO, et al.

Appln. No.: 09/748,212

Group Art Unit: 2871

Confirmation No.: 5362

Examiner: Dung T. NGUYEN

Filed: December 27, 2000

For: REFLECTION-TRANSMISSION DOUBLE TYPE LIQUID-CRYSTAL DISPLAY  
DEVICE

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents is submitted herewith.

The present Information Disclosure Statement is being filed after the later of three months from the application's filing date and the mailing date of the first Office Action on the merits, but before a Final Office Action, Notice of Allowance, or an action that otherwise closes prosecution in the application (whichever is earlier), and therefore Applicant is filing concurrently herewith a Statement Under 37 C.F.R. § 1.97(e). No fee under 37 C.F.R. § 1.17(p) is required.

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INFORMATION DISCLOSURE STATEMENT  
U.S. Appln. No.: 09/748,212

The present Information Disclosure Statement is being filed thirty days or fewer from a Communication from the European Patent Office citing such documents and a Statement Under 7 C.F.R. §1.704(d) is attached.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant encloses herewith a copy of the Communication from the European Patent Office in a counterpart application citing such documents and indicating the degree of relevance found by the European Patent Office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

Respectfully submitted,



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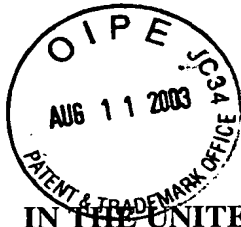
WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: August 11, 2003

Attorney Docket No.: Q62446



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DEVICE

**STATEMENT UNDER 37 C.F.R. § 1.704(d)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The undersigned hereby states, upon information and belief:

That each item of information contained in the Information Disclosure Statement filed concurrently herewith was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making a reasonable inquiry, that the communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of said Information Disclosure Statement.

Respectfully submitted,

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WASHINGTON OFFICE

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**STATEMENT UNDER 37 C.F.R. § 1.97(e)**

Commissioner for Patents  
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Alexandria, VA 22313-1450

Sir:

The undersigned hereby states, upon information and belief:

That each item of information contained in the Information Disclosure Statement filed concurrently herewith was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of said Information Disclosure Statement.

Respectfully submitted,

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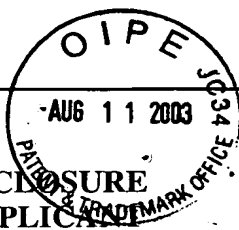
Date: August 11, 2003

Attorney Docket No.: Q62446

Substitute for Form 1449 A &amp; B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)



Complete if Known

Application Number	09/748,212
Confirmation Number	5362
Filing Date	December 27, 2000
First Named Inventor	Seiji UMEMOTO
Art Unit	2871
Examiner Name	Dung T. NGUYEN
Attorney Docket Number	Q62446

Sheet 1 of 1

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (if known)		
		US			
		US			
		US			
		US			
		US			
		US			
		US			
		US			
		US			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
		EP	0 957 392	A	11/17/1999	NITTO DENKO CORP.	

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation <sup>6</sup>
		PATENT ABSTRACTS OF JAPAN, vol. 1996, no. 08, 30 August 1996 & JP 08 094844 A (FUJITSU LTD), 12 April 1996 (abstract)	

Examiner Signature

Date Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or in the comment box of this document. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to indicate here if English language Translation is attached.



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Europäisches  
Patentamt

Zweigstelle  
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Recherchen-  
abteilung

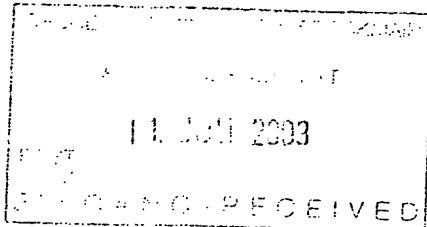
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Datum/Date

11.07.03

Zeichen Ref. Ref.

EP20482-011/iw ✓

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

00128362.1-1281- ✓

Anmelder Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

NITTO DENKO CORPORATION

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☐ abstract

☒ title

☒ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

1

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
1 A ✓	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 08, 30 August 1996 (1996-08-30) -& JP 08 094844 A (FUJITSU LTD), 12 April 1996 (1996-04-12) * abstract * * figures * * paragraph '0022! * ---	1	G02F1/13357 G02F1/1335 F21V8/00
2 A ✓	EP 0 957 392 A (NITTO DENKO CORP) 17 November 1999 (1999-11-17) * page 2, paragraphs 3-8; claims 1,2 * * abstract * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			G02F F21V G02B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26 June 2003	Examiner Gill, R
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 12 8362

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-06-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 08094844	A	12-04-1996	JP	3012462 B2	21-02-2000
EP 0957392	A	17-11-1999	JP	11326903 A	26-11-1999
			EP	0957392 A1	17-11-1999
			TW	438995 B	07-06-2001
			US	6507378 B1	14-01-2003





## ABSTRACT / ZUSAMMENFASSUNG / ABREGE

00128362.1

A reflection-transmission double type liquid-crystal display device has a transmission type liquid-crystal display panel including a liquid-crystal cell, at least one illuminator (91) disposed on at least one side surface of the liquid-crystal display panel (L), an optical path changing sheet (11) which has a refractive index exhibiting a refractive index difference of not higher than 0.15 from a refractive index of a nearest liquid-crystal cell substrate (41) and is bonded onto a back side of the liquid-crystal display panel through an adhesive layer (12) having a refractive index exhibiting a refractive index difference of not higher than 0.20 from the refractive index of the nearest liquid-crystal cell substrate, and a reflection layer (81) disposed on a back side of the optical path changing sheet. The optical path changing sheet includes optical path changing slopes and flat surfaces.